

Invitation for Bids Number: 04-05

**Acknowledgment of Addenda**

The undersigned acknowledges receipt of the following addenda to the bidding document:

**THE COMPLETED ACKNOWLEDGEMENT OF ADDENDA FORM  
SHOULD BE RETURNED WITH BID RESPONSE PACKAGE: NOT  
SENT TO RIPTA SEPARATELY**

ADDENDUM NO. 1 DATED:

NOTE: Failure to acknowledge receipt of all addenda may cause the bid to be considered non-responsive to the solicitation. Acknowledged receipt of each addendum must be clearly established and included with the bid.

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Name of Bidder

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Street Address

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City, State, Zip

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Signature of Authorized Official

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Date

**Invitation for Bids Number 04-05**

**Addendum No. 1**

**Date:                    September 17, 2003**

Attached please find the following:

Minutes of Pre-Bid Meeting held September 16, 2003  
Revision to Specifications

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**September 16, 2003**  
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The meeting came to order at 1:12 p.m. Michael J. McGrane, RIPTA Contract Manager welcomed all those present. Mr. McGrane introduced RIPTA Personnel present. Please refer to the attached Sign-in Sheet for a list of attendees. Mr. McGrane gave a brief background of the specifications for the Proposal Package and the purpose of this meeting. Mr. McGrane asked those present to identify themselves when asking questions. Following is a summary of the meeting.

Michael McGrane cautioned prospective Proposers to be diligent when completing the required forms, to pay attention to the details such as the required number of copies needed. Vendors need to submit the required forms listed in the Proposal Package on page 46. The RFP scope of work also lists other required submissions; which must also be submitted as part of the Proposal Response. Vendors having difficulty completing the required forms are encouraged to contact Michael McGrane for guidance.

The meeting was opened to questions from the various participants:

The following questions were raised by **Mr. Andy Sincali of U. S. Automation:**

To the best of my knowledge, the Maintenance Facility & Transportation Building utilize Detronics Model #PIR9400 Single-Point Infrared Methane Gas Detection Sensors connected to a Detronics Eagle Quantum critical control system. It is also my understanding that RIPTA maintains a working copy of the Eagle Vision-NT diagnostic software on a laptop. Since these two critical control systems have no local display and will require this software to perform complete diagnostic testing, I am assuming that RIPTA shall be responsible for providing this equipment. Please verify.

**Mr. John Braga, RIPTA :** RIPTA will supply the laptop and diagnostic software.

During an earlier site inspection, I found that all of the gas cylinders for the RIPTA calibration kits at the Maintenance Facility & Transportation Building were out of date (unusable) and that special lift equipment was necessary to reach many of the gas detection sensors (at least a 40' boom lift). I assume that the maintenance contractor will be responsible for providing all of this maintenance and calibration equipment.

**Mr. John Braga, RIPTA:** That is correct, the contractor will be responsible for providing all of this maintenance and calibration equipment.

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To the best of my knowledge, the RIPTA Newport Garage Facility has a different Gas Detection & ESD System, which was installed by Automation Concepts. This critical control system utilizes a Triconex Trident microprocessor, with (34) Scott Instruments Series 4688IR; Non-Dispersive Infrared Combustible Gas Transmitter Model No. 4688IR-1-1-1-1-1-1-1-1 sensors. This more advanced system includes an Intellution iFIX computer system & a Maple Display Systems touchscreen OIT. Based on my fairly detailed review, however, it appears that RIPTA does not maintain any diagnostic software for this system. Will the maintenance contractor need to provide all calibration equipment, as well as complete development software for the Triconex Trident processor, the Maple Systems OIT, and the Intellution iFIX application software. Please verify.

**Mr. John Braga, RIPTA:** The contractor is responsible for providing all necessary software and equipment for the Middletown facility.

Please be advised that the performance tests which need to be performed on these systems will interrupt most ongoing work, since the emergency shutdown features sound numerous loud horns, activate strobe lights, open garage doors, turn on exhaust fans, and most importantly turn-off all of the power to the entire maintenance building. We only need to test each circuit once, and then we can disable the main power shunt-trip but we have found it advantageous to perform most of this work after hours or in the early evening, depending on your maintenance garage work schedules. Please advise.

**Mr. John Braga, RIPTA:** This testing should be done on weekends.

These Gas Detection & Emergency System tests are fairly time consuming, so I would like to recommend that the tests of the entire critical control system, including the main processor application software functions only be conducted once annually. We would recommend that the calibration of all the gas detection sensors be conducted on a semi-annual basis, with one calibration coinciding with the full redundant control system testing. Does this meet the intent of your contract specifications?

**Mr. John Braga, RIPTA:** Please refer to the revised specifications for the information on the entire critical control systems Annual Test Requirements. It should be noted that this annual test fee must be included in the annual fee listed in the scope of work, The fee listed shall include both the semi annual and annual fees.

# **RHODE ISLAND PUBLIC TRANSIT AUTHORITY**

265 Melrose Street  
Providence, RI 02907

## **Invitation for Bid Number 04-05 REVISED SECTION XXII**

### **XXXII. CNG Detection System Recommended Maintenance PRACTICES**

#### **A. General**

The Gas Detection and Emergency Shutdown System (ESD) requires **semi-annual** calibration and testing as the primary form of maintenance. If any local, state, or federal regulation requires more frequent calibration than one a year, that schedule should be followed. In addition to calibration of field gas detectors, an operational check shall be performed on all components and equipment controlled by the Gas Detection and ESD System.

#### **F. Gas Detection & ESD System Annual Test Procedures**

1. Minimum Equipment & Personnel Requirements:
  - a. Two (2) Trained Gas Detection & ESD System Test Engineers/Technicians;
  - b. A minimum of two trained control system specialists is required to enable one
  - c. individual to calibrate & apply gas to detector, while a 2nd technician monitors
  - d. the test results and acknowledge all alarms, etc.
  - e. Radio Communications Equipment for all on-site test personnel
  - f. A Laptop Test Computer with the following application software:
    - i. Eagle Vision-NT programming/test software & interconnecting Cables
    - ii. Triconex Trident Programming & Test Software
    - iii. Intellution iFIX development software
    - iv. Maple Systems OIT application software
    - v. MicroSoft Office; Excel & Word for production of test documents
  - g. Portable Test gas Cylinders for Hydrogen, Methane, and Diesel Fuel sensors
  - h. Two Stage Pressure Regulator (for test gas cylinders)
  - i. Flowmeter/Rotameter for gas flow monitoring
  - j. Digital Flow Meter with 4-20mA simulation/monitoring capability
  - k. Boom/Scissor Lifts as need to access field detectors
  - l. Other equipment as required to complete required calibration tests

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### **G. Annual Test Procedures:**

1. Prepare a CNG Gas Detection test protocol and obtain advance approval of the test plan from all required RIPTA personnel.
2. Notify fire department and alarm monitoring company that testing of the CNG Gas Detection & ESD System is scheduled for a specific date/time.  
Request Fire Alarm System service to disable all outgoing CNG & other Gas Detection Alarms
3. Notify RIPTA personnel that testing is in progress for the Gas Detection & ESD System and that numerous alarms/power shutdowns will occur over the next eight hours. This testing should be scheduled well in advance so that essential RIPTA repair & administrative work is not interrupted.
4. Check all Gas Detection & ESD Control System hardware/software diagnostics for all computer system and critical I/O modules.
5. With one technician at the CNG sensor, calibrate the sensor as outlined in the Description of Work Section E(2).
6. Identify a representative percentage of the CNG gas detectors in each zone to use for the system-wide test procedures. 15%-25% of the sensors in each zone should be tested to insure proper operation of the ESD system. 100% of all gas detection sensors should be calibrated semi-annually.
- 7.) At the designated gas detectors for system-wide testing, gradually apply up to 20% LEL methane and monitor the main control system to see if the increased concentration is properly received/indicated. Make adjustments as necessary to insure that the displays read the same value as the local gas detector, if applicable.

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- 8.) At 20% monitor the ESD critical control circuits to insure that all appropriate inputs and outputs are energized. After testing that all the appropriate outputs are energized and that this I/O in turn energizes all of the required audio/visual alarms, garage doors, exhaust fans, and main power shunt trips. After insuring that all outputs energize the appropriate response circuits, at the discretion of the RIPTA representative, it may not be necessary to physically activate all of the response devices when testing each detector (instead only the associated I/O can be monitored at the main control panel).
9. Repeat steps #6 & #7 for 40% LEL, observe results.
10. At the completion of all tests, return the Gas Detection& ESD System to its normal functional state, reactivate fire alarm system, and notify all RIPTA & Emergency Response personnel that all systems are in full operation.
11. Record all test procedure results and provide annual system test documentation to the appropriate RIPTA representative.
12. Each annual test should be conducted using different gas detector sensors which were not used in the previous 3 annual control system tests